



EcoLexicon Research & ECONomic Development Partnership 2014-17

The EcoLexicon on Education and Workforce, is an independent, for profit research group that studies the link between education, career qualifications, and workforce demands.

Core Research:

The EcoLexicon conducts research with the goal of better aligning Education and Training with Eco Commerce workforce and labor market demand: jobs, skills, and people.

JOBS

Our first research focus is on the Eco Commerce market supply and demand for education, with an interest in occupation and industrial clusters.

SKILLS

Our second research focus is on connecting Eco Commerce competencies with education, training, and applied learning.

PEOPLE

Our third research focus on identifying the effect of changing job requirements and skill demand on students and current workforce, with a focus on Eco Commerce varying degrees of access and success by race/ ethnicity and socioeconomic status.

PUBLIC POLICY

The EcoLexicon seeks to inform and educate federal, state, and local policymakers and stakeholders on ways to better align on ways to better education and training with labor market demand and qualifications. it also seeks to create tools that enable decision makers to access and customize the data to allow national, state, and sub-state analysis.

Leadership and Team

EcoLexicon team of senior Eco Commerce experts with backgrounds in business, education, and issues pertaining to Eco Innovation, serves as an Administrator of the 2014-17 Partnership program.

For more information

Please review: [EcoLexicon Partnership 2014-17](#), [ECONomic Development Program 2014-17](#), [ECO Industry & Jobs](#), [Learning Center](#)

Contact

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FAST FACTS

What type of research does the EcoLexicon do?

See below, *sample questionnaire for survey of SMEs.

How can I register with the EcoLexicon to contribute or receive updates?

You can join our email list or contact the program administrator.

How can I receive a copy of your reports?

You can visit Eco Commerce Exchange (ECE) marketplace.

Is the EcoLexicon associated with a specific organization or advocacy group?

The EcoLexicon is an independent, for profits organization that is associated with Eco Commerce Exchange (ECE), Chamber of Eco Commerce (ECE), Innovation Center for Climate Resilience (ICCR), Innovation Center for Eco Innovation (ICEI), Organization Supporting Business Owners (OSBO).

How is the EcoLexicon funded?

The EcoLexicon is funded by sponsorships from private and corporate partners.

What data does the EcoLexicon use for its research and analysis?

The EcoLexicon uses data from private enterprises and organizations, and from federal and state agencies, and NGOs.

Who uses the EcoLexicon's research and analysis?

The EcoLexicon's research is available to the business and public. It has been used by EcoLexicon stakeholders in the education, training, and workforce arena, journalists, policymakers, foundations, etc.

What type of information does the EcoLexicon provide on Eco Commerce skills?

We provide estimates on the changing knowledge, skills, abilities, work activities, context and values required to performed occupations. We do this because in a demand-driven economy, traditional education degrees and credentials act only as a signal to these core competencies. This research, enables the EcoLexicon to evaluate and better understand true occupational requirements in a workplace. Some examples of our work include defining formal classroom training and on-the-job training for jobs to assist with ground-level workforce development and evaluating the formal education and workplace training requirements for jobs.

Who can I contact if I have more questions?

Please contact Tana@OSBO.org.



Eco Commerce Research & Development Partnership 2014-17

- We combine input from experts and practitioners in the field, allowing the development of understanding of Eco Commerce processes and developments and future trends.
- We collect and analyze data on Eco Trade and Investment trends, liaising with initiatives at regional, national, and international levels.
- We gather expert opinions on key emerging Eco Commerce issues, and the potential impacts on markets.
- We develop virtual marketplaces, assessing challenges and opportunity indicators at regional, sector and thematic levels to identify strengths and weaknesses.
- We publish reports on recent trends and emerging markets for Eco Innovation. The thematic reports address specific technological issues, such as consumer acceptance and public procurement. The regional reports present city/state/country level data and trends.
- We share critical business intelligence with users, tailored for all size enterprises and organizations, including trends in Eco industry, technology, and finance.

Eco Commerce Exchange (ECE)

The ECE functions as a virtual platform for the structured collection and analysis of information, gathered from across the economic regions, providing a much-needed integrated information source on Eco Commerce for key business and policy decision makers.

International collaboration aims to expedite the transition between the different areas of science and their respective industrial applications; meet the skills requirements of present and future; and facilitate the development of new Eco businesses, services, products and trades. One of the unique features of ECE is that we bring together the experts from around the world to share their expertise with our highly motivated global B2B audience.

ECE is a full service market research company and consulting group that produces high-level, strategically analyzed, full-length reports, tracking Eco industries. We deliver regional, national, and global market tracker reports for Eco Industry verticals.

We use technology to share and automate the management of large and complex market data. ECR's unique intelligence database and reports form the world's leading Eco Commerce resource.

We aspire to assist our clients achieve sustainable growth by providing incisive business insight into their respective markets.

Partners and Global Reach

[International Eco Commerce Partnership \(IECP\)](#)

[TransAtlantic Eco Commerce Partnership \(TECP\)](#)



*** QUESTIONNAIRE FOR SURVEY OF SMEs**

Q1. How many employees does your business have, including management, in full time equivalents?

- 1-4
- 5-9
- 10-49
- 50-249
- 250 or more
- Don't know

Q2. What type(s) of Eco Innovation(s) is your business developing?

Definition of Eco Innovation

All forms of innovation activities resulting in or aimed at significantly improving environmental protection. Eco Innovation includes new production processes, new products or services, and new management and business methods, whose use or implementation is likely to prevent or substantially reduce the risks for the environment, pollution and other negative impacts of resources use, throughout the life cycle of related activities.

More than one answer possible

- *Product innovation*
- *Process innovation (a new production method applying an existing technology)*
- *Service innovation*
- *Organizational/ management/ business model innovation*
- *Any innovation applying a new technology*
- *Other innovation (please specify)*
- *Not an eco-innovative firm*
- *Don't know*

Q3. To which economic sector does your business belong?

- *Agriculture, forestry, and fishing*
- *Manufacturing and mining*
- *Construction/building*
- *Trade*
- *Transport and storage*
- *Accommodation and food services*
- *Business services*
- *Others (please specify)*

Q4. Which sector(s) do you consider to be the main target industry or industries for your products and/or services? Please select up to three.

More than one answer possible

- *Energy generation*
- *Energy storage*
- *Energy infrastructure*
- *Energy efficiency*
- *Transport*
- *Water and wastewater*
- *Air and environment*



- *Materials*
- *Agriculture*
- *Recycling and waste*
- *Building/construction*
- *Food and drink manufacturing*
- *Other manufacturing*
- *Other, please specify*
- *Don't know*

Q5. In which year was your business established?

- Please state year
- *Don't know*

Q6. In which stage of development would you consider your business to be?

Definition of terms

Seed

Main activities include research, assessment and development of an initial concept before a business has reached the start-up phase.

Start up

Main activities include product development and initial marketing. Businesses may be in the process of being set up or may have been in business for a short time, but have not sold their innovation commercially.

Expansion

An innovation has been launched or implemented and the main focus is on growth and expansion of the business, which may or may not break even or trade profitably.

Later

Business is established and the main focus areas include replacing capital or preparing for exit, such as by preparing to be bought out.

- *Seed stage*
- *Start up stage*
- *Expansion stage*
- *Later stages*
- *Don't know*

Q7. Has your business already launched or implemented an Eco Innovation?

- No
- Yes

Q8. How many Eco innovations has your business implemented or launched?

- 1
- 2-4
- 5 or more
- *Don't know*



Q9. Has your business ever implemented or launched another innovation-not focused on Eco Innovation?

- Yes
- No
- Don't know

Q10. How experienced do you consider your management team to be?

- Very Experienced
- Somewhat experienced
- Inexperienced
- Don't know
- Technical experience
- Business experience

Q11. What is the total amount of financing in USD that has been injected into your business since its foundation, including own-source, public, and private sources of finance?

- less than 100.000 USD
- 100.000 to 500.000 USD
- 500.000 to 1.000.000 USD
- 1.000.000 to 2.000.000 USD
- 2.000.000 to 5.000.000 USD
- 5.000.000 USD or more
- Don't know
- Information withheld

Q12. Have you ever used the following types of financing since the establishment of your business?

Mezzanine financing

A hybrid of debt and equity financing that is typically used to finance the expansion of existing businesses. Mezzanine financing is basically debt capital that gives the lender an extra payment if the business is successful.

- Yes
- No
- Don't know
- Information withheld
- Own source (friends, family, founders)
- Debt financing
- Venture capital
- Business angel
- Crowdfunding

Other forms of equity than venture capital and business angels (for example buyout)

- Yes
- No
- Don't know
- Information withheld
- Mezzanine
- Public grants
- Loan backed by loan guarantee



- Other public funding
- Other financing

Q13. Please state the percentage of the total financing it comprised.

Please be aware that combination of answers is reasonable, i.e. if only three answers: 3 times 80-100%, or three times 0-20% is not possible (not adding to 100%).

- 0-19
- 20-39
- 40-59
- 60-79
- 80-100
- Don't know
- Information withheld
- Own source (friends, family, founders)
- Debt financing
- Venture capital
- Business angel

Other forms of equity than venture capital and business angels (for example buyout)

- 0-19
- 20-39
- 40-59
- 60-79
- 80-100
- Don't know
- Information withheld
- Mezzanine
- Public grants
- Loan backed by loan guarantee
- Other public funding
- Other financing

Q14. Is your business currently seeking finance?

- Yes
- No
- Don't know
- Information withheld

Q15. What are the three most important sources of information you do/did consult when seeking finance?

Investment readiness program

A program that aims to prepare business to seek investment by providing mentoring, advice, or assistance with business plan development, proposal writing, networking, presentation skills, or understanding financing options.

- Other innovators in your industry
- Industry newsletter
- Investment readiness programs
- Industry/ cluster associations
- Banks or other financial institutions



- Government publications
- Internet search
- Informal network
- Business adviser
- Other (please specify)
- Do not have specific source
- Don't know [Do not read]

Q16. Have you ever sought financing but been unsuccessful?

If yes, please state the stage(s) at which you were unsuccessful. More than one answer possible.

- Yes, seed stage
- Yes, start up stage
- Yes, expansion stage
- Yes, later stages
- No, never
- Don't know
- Information withheld

Q17. Has your business ever sought financing from the public providers of finance?

- Yes, successfully
- Yes, but not successful
- No
- Don't know
- Information withheld

18. Please specify home state(s) of providers of public finance, whether or not you were successful.

State 1 Don't know/not applicable

State 2 Don't know/not applicable

State 3 Don't know/not applicable

Q19. At which stage of development did you first start looking for international providers of finance?

- Seed stage
- Start up stage
- Expansion stage
- Later stages
- Don't know
- Information withheld

Q20. How significant are the following external barriers for your business when seeking financing?

A demonstration site is a small-scale implementation of an Eco Innovation on a trial basis and is used to prove a concept.

- Very significant
- Somewhat significant
- Not significant
- Not applicable
- Don't know
- Insufficient market demand for innovation
- Limited market information (unknown number or type of customer)



- *Difficulty meeting certification or regulatory requirements*
- *Protecting intellectual property rights is difficult and expensive*
- *Potential financial suppliers insufficiently engaged with Eco Innovative industries*
- *Financial suppliers' expected returns are different from your business goals*
- *Financing available not tailored to small-scale investment needs*

- *Very significant*
- *Somewhat significant*
- *Not significant*
- *Not applicable*
- *Don't know*

- *Difficulty with public-sector customers*
- *Lack of contacts within your industry*
- *Uncertainty of government policy or regulation*
- *Lack of available demonstration sites*
- *Other 1 (Please specify)*
- *Other 2 (Please specify)*

Q21. How significant are the following internal barriers for your business when seeking financing?

- *Very significant*
- *Somewhat significant*
- *Not significant*
- *Not applicable*
- *Don't know*

- *Financial supplier requested an unacceptably high level of control of your business*
- *Lack of technical experience in your business as perceived by financial supplier*
- *Lack of business experience in your business as perceived by financial supplier*
- *Insufficient amount of collateral available*
- *Difficulty recruiting skilled professionals*

- *Very significant*
- *Somewhat significant*
- *Not significant*
- *Not applicable*
- *Don't know*

- *High administrative burden*
- *Limited resources dedicated to seeking or securing finance*
- *Lack of knowledge of financing options*
- *Other 1 (Please specify)*
- *Other 2 (Please specify)*

Q22. In your estimation, how do you expect your access to finance to be 12 months from now?

- *Better than today*
- *Same as today*
- *Worse than today*
- *Don't know [Do not read]*

Q23. In your estimation, is accessing finance more difficult for Eco Innovative businesses than for other innovative businesses?



- Yes
- No
- Don't know

INTERVIEW GUIDE FOR INVESTORS

The interviews will be semi-structured interviews. A semi-structured interview is flexible, allowing new questions to be brought up during the interview based on interviewee responses.

The interview guide should be considered as a grouping of topics and questions that the interviewer can ask in different ways for different participants. Not all questions are relevant for all types of financial actors and the questions will be tailored to the interview context/situation, and to the people being interviewed. Therefore, the guide should be considered as a framework of themes to be explored. The specific topics to explore during each interview will be decided in advance.

1. Background – general

Background on company/organization in general

- Structure, capital under management, number of funds, operations, and funding/investment history
- Who has provided the capital for the fund(s)

Background of management team

- Education and experience

2. Background – investing in (non-energy) eco-innovation

How many years of experience do you (the management team) have in investing in Eco Innovation?

- How has the experience been gained?
- What is your experience with raising venture capital funds focused on Eco Innovation?

Rationale for investing in Eco Innovation

- Why do you invest in Eco Innovative SMEs?
- What types of Eco Innovative SMEs do you invest in? Why these?
- Where (subsectors) do most funds currently focus? Why?
- Operations in more detail: your focus, strategy and position in market?

How have you experienced the demand for and supply of Eco Innovation financing in the past years?

- Is it more difficult to raise funds within certain areas, e.g. waste or water?
- Are there particular financing gaps for Eco Innovative SMEs?

What are the main barriers/obstacles when trying to raise capital for new funds focused on Eco Innovation from institutional investors (and other potential investors)?

- What are their motives to supply capital?
- Their main concerns?
- What are their conditions for providing financing?

3. Investment opportunities

What is your process of scouting Eco Innovative SMEs?



- Differences according to industry/sub-sectors?
- Due diligence process

What are the criteria you use when evaluating Eco Innovation investment opportunities?

Are the investment criteria different for funds focused on Eco Innovation compared to funds focused on innovative industries such as ICT, life sciences – e.g. more difficult or requires different/more specific skills?

Are the investment criteria different for sub-sectors within Eco Innovation (waste, water, materials, transportation)?

What are the characteristics of a good investment opportunity in Eco Innovation?

- Risk/return, growth and exit perspectives?
- Preferred experience of SME management team?
- Concrete examples?
- Differences according to industry/sub-sectors?

What are the typical weaknesses and barriers you see when assessing investment opportunities in Eco innovative SMEs?

- Related to the stage of investment - seed, start up, expansion, later stage...
- Related to the entrepreneur(s)? For example business and technical skills of entrepreneurs, drive, ambition...
- Related to the product/service?
- Related to framework conditions? Tax and legal concern, importance of regulation and subsidies...
- Concrete examples?
- Differences according to industry/sub-sectors?

How do you consider the development in investment opportunities - i.e. availability of interesting Eco Innovative SMEs?

- Differences between industries/sub-sectors?

In your opinion, are some Eco Innovation industries (sub-sectors) more promising than others and why?

In your opinion is there a lack of financing for Eco Innovative SMEs or a lack of good investment opportunities?

Is it in your opinion more difficult for Eco Innovative SMEs to get financing than other innovative SMEs? Why/why not?

Managing investments

How do you manage your portfolio of Eco Innovative SMEs?

- Use of criteria and milestones?
- How would you describe your role as investor in relation to eco-innovative SME, e.g. with regards to management decisions, strategy, etc.?
- Differences compared to other innovative investments? More or less hands on?
- Differences according to industry/sub-sectors?

What are the characteristics of your portfolio and their current challenges? Are there any recurring challenges you face in developing and growing the SMEs you have invested in?



- Differences compared to other innovative investments like ICT, life sciences etc.?
- Track record and exits compared to other innovative areas?
- Differences according to industry/sub-sectors?

Is the equity capital you provide typically combined with other types of financing?

- In what instances?
- At which stage of development?
- What other types of financing?
- What are the criteria the SMEs most fulfill to be eligible for other types of financing?
- Difference to other innovative SMEs and within sub-sectors

Considering your current experience with investing in eco-innovation, what are the most important lessons you have learned?

- E.g. need for specialization of investors?
- Public/private partnerships?
- Experiences with specific instruments?
- Differences according to industry/sub-sectors?

A national or transnational market of Eco Innovation finance

Do you invest outside the country where the fund is based?

- Why/why not?
- If yes, what type of companies abroad would you consider - stage of development, sub-sector, co-financing involved... and from which countries? why?

Is there in your opinion an US wide market for Eco Innovation finance?

- Is there a US market for equity financing in general?
- If yes, please explain why you consider such a market for Eco Innovation finance to be present?
- If no, why not?
- What are the barriers?
- What are the consequences?
- What could be done to create a US market?
- Are there any good practice examples of cross states tools or instruments which have facilitated cross state investments in eco-innovative SMEs?
- Which sub-sectors do they apply?

For investors with an international perspective: In your opinion, in which countries are the markets most mature with regards to Eco Innovation financing?

- What are the central lessons from the most mature markets?
- What has been done to develop these markets?
- Could similar initiatives/programs be implemented in other countries with similar results?

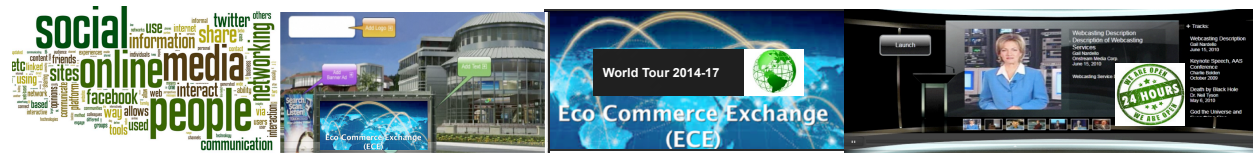
A thriving Eco Innovative industry in the future

What are your thoughts on how to improve the pipeline of non-energy Eco Innovative SMEs?

- What could be done in which sub-sectors?

What are your thoughts on how to improve the supply of finance for eco-innovative SMEs – especially at early stage?

- What framework conditions should be improved to facilitate more investments in Eco Innovative SMEs



What is your knowledge of current policies, financial instruments and support schemes for Eco Innovation in financial actor's home country?

- How would you evaluate the efficiency of these policies, instruments and schemes?
- Differences according to industry/sub-sectors?

What is your knowledge about current policies, financial instruments and support schemes for Eco Innovation

- How would you evaluate the efficiency of these schemes, instruments and policies with the aim of leveraging access to finance of Eco Innovative SMEs?
- Differences according to industry/sub-sectors?
- Do you know of any other examples of successful Eco Innovation financing instruments?

In your opinion, what are the decisive framework conditions for a thriving non-energy Eco Innovation industry?

Are you satisfied with the role of your country/state in supporting Eco Innovation financing when compared to other national, regional, local actors?

- If not, how do you think it should improved - more active, less active, different type of activities, provide finance through national funds or directly, programs are too bureaucratic, programs are not known by enough SMEs?

INTERVIEW GUIDE for LOAN PROVIDERS

The interviews will be semi-structured interviews. A semi-structured interview is flexible, allowing new questions to be brought up during the interview based on interviewee responses.

The interview guide should be considered as a grouping of topics and questions that the interviewer can ask in different ways for different participants. Not all questions are relevant for all types of financial actors and the questions will be tailored to the interview context/situation, and to the people being interviewed. Therefore, the guide should be considered as a framework of themes to be explored. The specific topics to explore during each interview will be decided in advance.

Background – general

Background on company/organization in general

- Structure, operations, types of lending provided and the total volume?
- Share of lending to Eco Innovative firms?
- Why interest in lending to Eco Innovative firms?
- Does the company/organization focus on sustainability in general?

Background of management team

- Education and experience of consulting professionals/lending specialists?
- *Background – investing in (non-energy) Eco Innovation*
- *For how many years have your company/organization had a special focus on lending to Eco Innovative SMEs?*

Rationale for investing in Eco Innovation?

- What types of Eco Innovations do you lend to and why?

Describe relevant products offered to eco-innovative SMEs?

- Are they for all SMEs vs. only for Eco Innovative SMEs?



- For all Eco Innovative SMES vs sub-sectors?
- For new businesses versus established business?
- For high technology businesses vs. traditional business?
- For high vs. low risk borrowers?

How many of the businesses obtaining loans are traditional Eco-SMEs and how many are Eco Innovative SMEs?

- How many are new businesses?
- How many are established businesses?

How have you experienced the demand and supply of debt financing for Eco Innovative SMEs in the past years?

- How has the total loans provided for eco-innovative SMEs by your organization developed
- Are there particular financing gaps for Eco Innovative SMEs? If yes, why?

Assessing Eco Innovative SMEs

Which criteria do you apply when assessing applications for loans from Eco Innovative SMEs?

- Use of credit scoring systems
- Differentiation between high risk vs. low risk borrowers

Differences according to industry/sub-sectors?

- What types of security/collateral does the Bank typically require

What is the preferred (or most common) form used when providing loans to Eco Innovative SMEs?

- How does this differ within Eco Innovation (sub-sectors) and from other innovative SMEs

Are the criteria applied when assessing loan applications from Eco Innovative SMEs different than the ones applied to other innovative SMEs/industries - Is the price of credit different?

What are the characteristics of a good loan application in Eco Innovation?

- Risk, growth and possible future relationship?
- Collateral, own funds invested, assets, cash flow, revenue generation, profitability?
- Known business model, qualify for loan guarantee?
- Preferred experience of SME management team?
- Differences according to industry/sub-sectors?

What are the typical reasons for rejecting applications for loans from Eco Innovative SMEs?

- Lack of credit history, collateral, experience of management team, (small) size of loan application and cost of lending to SMEs?
- Are the reasons different according to sub-sector or different from other other innovative SMES

In your perspective, are some Eco Innovation industries (sub-sectors) more suited for receiving loans than others and why?

Providing loans

Do you provide loans to Eco Innovative SMEs which have already received equity financing? If so, what are the criteria a business must meet to obtain a loan?

What are the characteristics of the businesses that seek to supplement equity financing with debt financing? How far are they in the development of innovation(s)?



What are the characteristics of the Eco Innovative SMEs you have provided loans to and what are their current challenges?

Are there any recurring challenges you experience when monitoring the eco-innovative SMEs you have provided loans for? Do you also see these for other innovative SMEs?

Differences according to industry/sub-sectors?

How do you monitor the Eco Innovative SMEs you provide loans to?

Considering your current experience with lending to Eco Innovative SMEs, what are the most important lessons you have learned?

- E.g. need for specialization of organizations?
- Experiences with specific instruments?
- Differences according to industry/sub-sectors?

A thriving eco-innovative industry in the future

What are your thoughts on how to improve the supply of debt finance for Eco Innovative SMEs?

What is your knowledge of current policies, financial instruments and support schemes for Eco Innovation in financial actor's home state?

- How would you evaluate the efficiency of these policies, instruments and schemes?
- Differences according to industry/sub-sectors?
- Suggestions for improvements?

What is your knowledge about current policies, financial instruments and support schemes for Eco Innovation?

- How would you evaluate the efficiency of these schemes, instruments and policies in terms of leveraging access to finance of Eco Innovative SMEs?
- Differences according to industry/sub-sectors?

Do you know of any other examples of successful Eco Innovation financing instruments?

In your opinion, what are the decisive framework conditions for an efficient debt financing market for Eco Innovative SMEs?

Are you satisfied with the role of the US/your state in supporting Eco Innovation financing when compared to other national, regional, local actors? If not, how do you think it should change (more active, less active, too bureaucratic, different type of instruments)?

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